

lation of these beetles to resort to cannibalism are not clear as they have been observed to do so even in the presence of abundant food, living space and at low densities. In a rearing jar of two litre capacity containing 25 beetles and supplied with 10 grammes of food, about two or three beetles tended to be cannibalistic. In a case which was watched, a beetle seized another from the front. At the beginning, the two faced each other. The cannibalistic beetle held the other with its legs and started nibbling and biting it in the cervical region repeatedly. After repeated attacks which were accompanied by a considerable amount of struggle, the prey beetle was immobilised, after about 15 minutes. Other beetles in the jar which happened to come into contact with the dead beetle apparently showed no inclination to feed on it. The preying beetle then turned over the body of the dead beetle, exposing its ventral side and started consuming it from the abdominal region. After feeding for about 15 minutes, the beetle deserted the prey, leaving behind only its head, thorax, wings and some cuticular parts of the abdomen.

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21. A SIMPLE CASE OF LEARNING IN THE ANT, *CAMPONOTUS* SP., (HYMENOPTERA : FORMICIDAE)

Though the intelligence of ants in the strict sense is limited, their capacity to learn from experience or training in artificial nests in the laboratory can be assessed by a number of tests such as those listed by Skaife (1961)¹. The authors have been maintaining a colony of the ant, *Camponotus* sp., in an artificial nest designed by them out of a circular plastic container, for the past six months and have observed the following simple but interesting instance of learning in this ant.

The ant mentioned above is in the habit of dumping rubbish consisting of remains of food, exuviae of larvae, dead ants, and excremental pellets into a few small heaps, a little distance away from a corner of the artificial nest where the members of the colony congregate. The authors tried to train the ants to collect and dump the rubbish matter in one place. Therefore, the rubbish from all the heaps was collected and put by the authors, inside a shallow, small container at one end of the nest away from the side where the colony had settled down. Then, whenever the

¹ SKAIFE, S. H. (1961): The study of ants. Longmans, Green and Co. Ltd., London, pp. 178.

ants put the waste matter anywhere else in the nest, it was collected by the authors and put inside the shallow container which was meant to be used eventually by the ants for dumping rubbish. Within a few days the ants started throwing more waste matter into the concerned container than anywhere else inside the nest and within about two weeks, they developed the habit of dumping the rubbish exclusively into the container kept for the purpose. The olfactory factor must have played an important role in this learning process. Later, when a few small bits of paper were littered inside the nest one evening, the ants, by the following morning, had already collected and thrown them into the rubbish container.

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22. LARVAL PARASITES OF *PSEUDALETIA SEPARATA* (WALKER)

Pseudaletia separata (Walker) is an important pest of graminaceous crops including sugarcane, maize, jowar, rice and grasses. During the course of investigation on its biology at R.A.K. College of Agriculture, Sehore, Madhya Pradesh, in 1964, attempts were made to study its natural enemies. No predator could be recorded during the study but cannibalism amongst the caterpillars was noticed.

Out of the 200 caterpillars collected from the field during October, 70% were found to be parasitised. The adults of different parasites that emerged from the above sample were 548 *Apanteles ruficrus* Haliday, 21 *Disophrys* sp.; 9 *Rhogas* sp.; 3 *Dolichocelon paradoxum* B.B. and 5 *Exocrista fallax* Mg. This indicates that *A. ruficrus* is the dominant parasite at Sehore.

Out of the above parasites *A. ruficrus* (Braconidae) has been recorded earlier on the pest by Khan (1946) and Bhatnagar (1948). Other parasites recorded previously in India on *Pseudaletia* are *Actia monticola* Mall, *Cyphocera* (*Cyphocera*) *varia* F., *Sturmia inconspicuides* Baranov (Cherian & Ananthanarayanan 1941), and *Parasierola* sp. (Avasthy & Chaudhary 1963), which were not recorded by the authors at Sehore.

The parasites, *Rhogas* sp., *Disophrys* sp. both Braconids and *Dolichocelon paradoxum* B.B. and *Exocrista fallax* Mg. both Tachinids have been recorded for the first time in India on the pest.